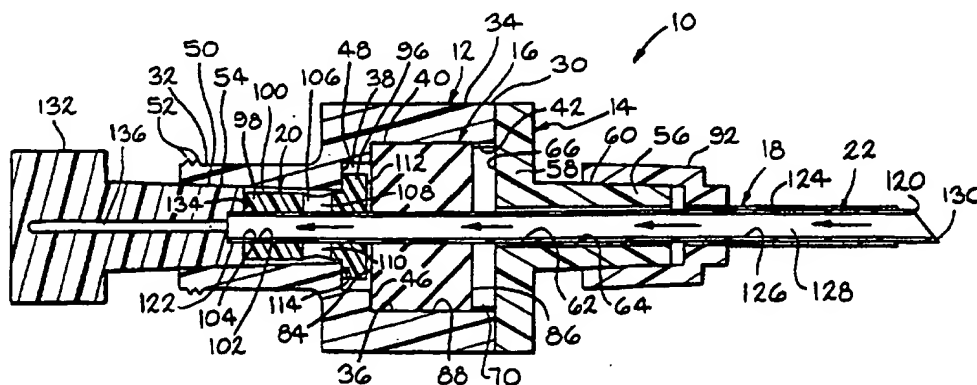




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : A61M 39/26, 39/06</p>	<p>A3</p>	<p>(11) International Publication Number: WO 97/31676 (43) International Publication Date: 4 September 1997 (04.09.97)</p>
<p>(21) International Application Number: PCT/US97/02199 (22) International Filing Date: 12 February 1997 (12.02.97) (30) Priority Data: 08/608,280 28 February 1996 (28.02.96) US (71) Applicant: AEROQUIP CORPORATION [US/US]; 3000 Strayer Road, Maumee, OH 43537 (US). (72) Inventor: ARNETT, Jeffery, D.; 7768 Lakecrest Drive, Ypsilanti, MI 48197 (US). (74) Agents: SHUST, Nestor, W. et al.; Jones, Day, Reavis & Pogue, North Point, 901 Lakeside Avenue, Cleveland, OH 44114 (US).</p>		<p>(81) Designated States: CA, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 23 October 1997 (23.10.97)</p>

(54) Title: VALVE ASSEMBLY FOR MEDICAL USES



(57) Abstract

A valve assembly having a body, an end cap, a resilient septum, and an actuator. The body forms a plurality of fluid recesses. The end cap defines a plurality of projections that form channels. The septum is positioned between the body and the end cap. An actuator device is positioned adjacent the septum for moving the septum away from a shoulder defined in the body to allow fluid to pass through the body, actuator, and end cap. The assembly can include a sharp. The sharp extends through the body, the actuator, the septum and the end cap.

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 97/02199

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A61M39/26 A61M39/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No. ...
X	EP 0 696 461 A (BECTON DISCKINSON AND COMPANY) 14 February 1996 see column 8, line 29 - line 30 see claims 1,8; figures 2,4 ---	1-11
X	GB 1 466 242 A (METABURN (HOLDINGS) LIMITED) 2 March 1977 see claim 1; figures	1
A	---	3,5
X	US 5 390 898 A (SMEDLEY ET AL.) 21 February 1995 see claim 1; figures 3,4	1
A	---	3,7
X	US 4 421 296 A (STEPHENS) 20 December 1983 see claim 1; figures 1,2 ---	1
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

19 June 1997

Date of mailing of the international search report

11.09.97

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INTERNATIONAL SEARCH REPORT

Internat . Application No

PCT/US 97/02199

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 440 479 A (CRITIKON, INC.) 7 August 1991 see figure 4A ---	2
A	EP 0 332 884 A (B. BRAUN MELSUNGEN) 20 September 1989 see column 3, line 8 - line 13 see column 3, line 55 - line 57 see figure 1 ---	3
A	EP 0 356 679 A (ING. ERICH PFEIFFER GMBH & CO. KG) 7 March 1990 see column 6, line 36 - line 54 see figure 3 -----	7,8

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 97/02199

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. Claims : 1-11
Valve assembly.
 2. Claims : 12-20
Valve assembly with a catheter and a needle.
1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
 2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
 3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
 4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internat. Application No

PCT/US 97/02199

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